

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
24 July 2003 (24.07.2003)(10) International Publication Number
PCT WO 03/061235 A3

(51) International Patent Classification⁷: G06F 17/60, G07C 5/00

(74) Agent: LUETTGEN, David, G.; FOLEY & LARDNER, 777 E. Wisconsin Avenue, 33rd Floor, Milwaukee, WI 53202-5306 (US).

(21) International Application Number: PCT/US02/41367

(22) International Filing Date: 20 December 2002 (20.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/342,292	21 December 2001 (21.12.2001)	US
60/360,479	28 February 2002 (28.02.2002)	US
60/388,451	13 June 2002 (13.06.2002)	US

(71) Applicant: OSHKOSH TRUCK CORPORATION [US/US]; 2307 Oregon Street, Oshkosh, WI 54902 (US).

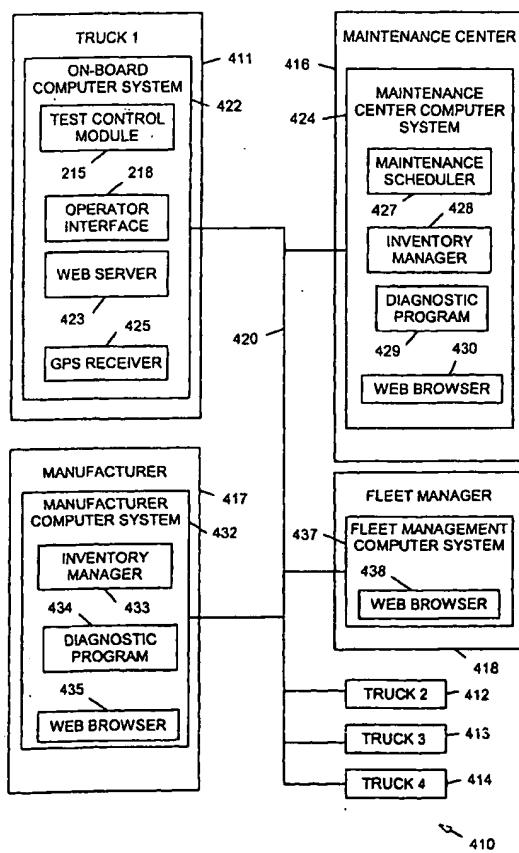
(72) Inventors: PILLAR, Duane, R.; 1733 Iowa Street, Oshkosh, WI 54902 (US). SQUIRES, Bradley, C.; Northgate Estates, Lot 16, New London, WI 54961 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: EQUIPMENT SERVICE VEHICLE WITH NETWORK-ASSISTED VEHICLE SERVICE AND REPAIR



(57) Abstract: A method of ordering parts for an equipment service vehicle comprises performing a diagnostic test on the equipment service vehicle, the performing step being performed by an on-board computer system of the equipment service vehicle and transmitting a request for a replacement part for the equipment service vehicle, the request being transmitted from the on-board computer system to an off-board computer system by way of a wireless radio-frequency (RF) communication link. A method of scheduling maintenance for an equipment service vehicle comprises performing a diagnostic test on the equipment service vehicle using an on-board computer system of the equipment service vehicle, and transmitting a request to schedule the equipment service vehicle for maintenance. The request is transmitted from the on-board vehicle computer system to an off-board computer system by way of a wireless radio-frequency communication link.

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

4 December 2003

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G06F17/60 G07C5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 G06F G07C G08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category ^o	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>M. NATHANSON: "Vehicle Intelligence And Remote Wireless OBD" SAE TECHNICAL PAPER 2000-01-3506, 4 - 6 December 2000, pages 1-12, XP002256061 the whole document abstract page 2 page 4 -page 8 page 12 "Conclusion" ---- -/--</p>	1-47

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

^o Special categories of cited documents :

- ^{*A*} document defining the general state of the art which is not considered to be of particular relevance
- ^{*E*} earlier document but published on or after the International filing date
- ^{*L*} document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- ^{*O*} document referring to an oral disclosure, use, exhibition or other means
- ^{*P*} document published prior to the International filing date but later than the priority date claimed

^{*T*} later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

^{*X*} document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

^{*Y*} document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

^{*&*} document member of the same patent family

Date of the actual completion of the International search

Date of mailing of the International search report

29 September 2003

16/10/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Bauer, R

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	M.A. BARRACO KLEMENT: "Agile Support Project - Global Hawk Program" PM PROGRAM MANAGER, January 1999 (1999-01) - February 1999 (1999-02), pages 66-70, XP002256062 Internet (http://www.dau.mil/pubs/pm/pmpdf99/klemenjf.pdf) the whole document page 67 page 68, middle column page 69, left-hand column page 70, middle column ---	1-47
X	J. SKIBINSKI, J. TRAINOR, C. REED: "Internet-based Vehicle Communication Network" SAE TECHNICAL PAPER 2000-01-3503, 4 - 6 December 2000, pages 1-6, XP002256063 the whole document page 6 ---	1-47
X	EP 0 949 122 A (MANNESMANN VDO AG) 13 October 1999 (1999-10-13) abstract; figures 1,3 page 3, line 13 -page 4, line 21 ---	1-47
A	GB 2 263 376 A (DAVIES LESLIE KEITH) 21 July 1993 (1993-07-21) abstract page 1 -page 2 page 3, line 22 - line 28 page 5, line 30 -page 6, line 29 page 9, line 7 - line 31 ---	1-47
A	DE 41 11 865 A (MITSUBISHI ELECTRIC CORP) 17 October 1991 (1991-10-17) abstract page 1, line 1 - line 29 page 4 -page 5 ---	1-47
A	US 2001/034656 A1 (ANDERSON, LUCAS) 25 October 2001 (2001-10-25) abstract paragraphs '0006!, '0008!, '0009! paragraphs '0019!, '0020! paragraphs '0026!-'0028! paragraph '0035! ---	1-47
		-/-

BEST AVAILABLE COPY

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 819 201 A (DEGRAAF BRENT L) 6 October 1998 (1998-10-06) abstract; figures 2,3,6A column 1, line 34 - line 58 column 2, line 51 - line 65 column 4 ---	48-54
X	LUKA J ET AL: "Mobile Diagnosis" VEHICLE ELECTRONICS CONFERENCE, 1999. (IVEC '99). PROCEEDINGS OF THE IEEE INTERNATIONAL CHANGCHUN, CHINA 6-9 SEPT. 1999, PISCATAWAY, NJ, USA, IEEE, US, 6 September 1999 (1999-09-06), pages 215-220, XP010375901 ISBN: 0-7803-5296-3 the whole document ---	55
Y	US 6 263 268 B1 (NATHANSON MARTIN DANIEL) 17 July 2001 (2001-07-17) abstract the whole document ---	48-54
X	EP 1 087 343 A (RENAULT) 28 March 2001 (2001-03-28) column 2, line 14 -column 3, line 35 column 4, line 48 -column 5, line 45 column 6, line 34 -column 7, line 58 column 8, line 34 - line 44 -----	55

BEST AVAILABLE COPY

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple Inventions in this International application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-47

An vehicle on-board computer performs diagnostics and identifies thereby defective parts and automatically orders the parts identified as defective.

The technical problem dealt with is the automation of the detection of a defective part and the retrieval of sufficient information for ordering a part.

1.1. Claims: 48-54

Transmitting data to a computer on-board of a vehicle, the data being indicative of a recall, and displaying such information. Dependent claims pertain to the arrangement of a maintenance appointment. The Examiner could not find any technical problem dealt with in the light of the knowledge that is common in the field of telemetry.

1.2. Claim : 55

Method of diagnosing a vehicle by the use of telemetry, i.e. by performing tests on-board a vehicle using a remote computer.. The Examiner could not find any technical problem dealt with in the light of the knowledge that is common in the field of telemetry.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 0949122	A 13-10-1999	DE 19901312 A1 EP 0949122 A2 JP 11338536 A		14-10-1999 13-10-1999 10-12-1999
GB 2263376	A 21-07-1993	NONE		
DE 4111865	A 17-10-1991	JP 3295735 A DE 4111865 A1		26-12-1991 17-10-1991
US 2001034656	A1 25-10-2001	NONE		
US 5819201	A 06-10-1998	WO 9914684 A1 EP 1018079 A1 AU 4484797 A CA 2303218 A1 NO 20001416 A		25-03-1999 12-07-2000 05-04-1999 25-03-1999 17-03-2000
US 6263268	B1 17-07-2001	NONE		
EP 1087343	A 28-03-2001	FR 2799034 A1 EP 1087343 A1		30-03-2001 28-03-2001